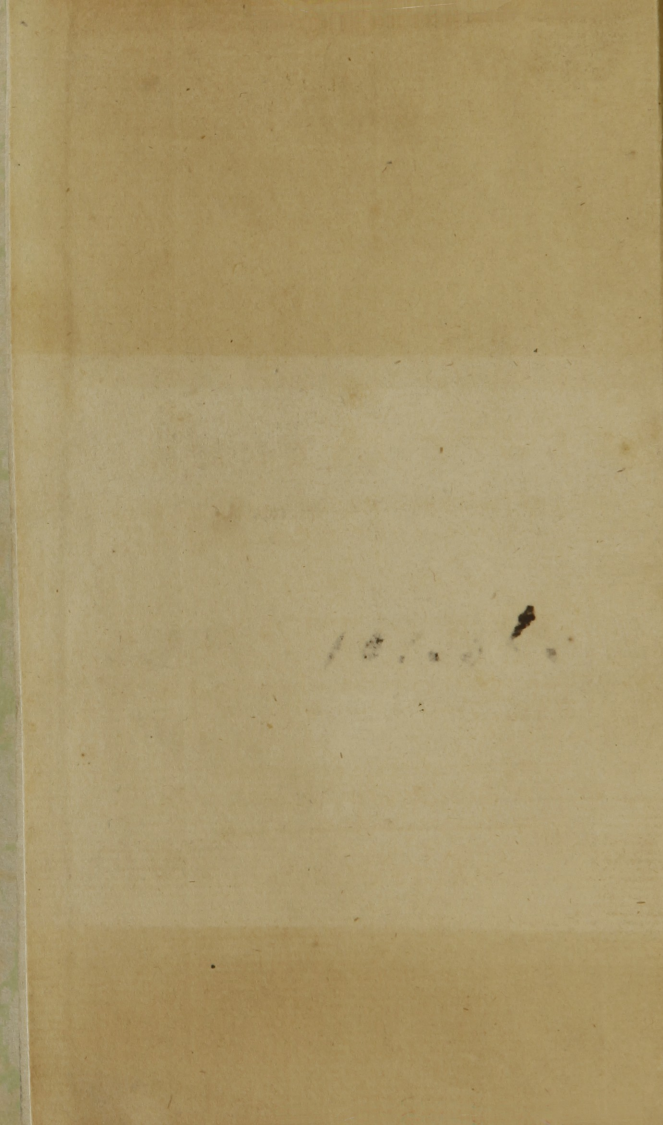


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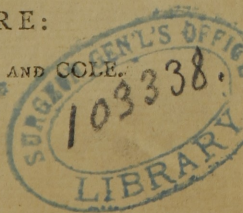
A
T R E A T I S E
ON
D E N T I S T R Y,
EXPLAINING THE
D I S E A S E S
OF THE
T E E T H A N D G U M S,
WITH THE MOST EFFECTUAL MEANS OF PRE-
VENTION AND REMEDY;
TO WHICH IS ADDED,
D E N T I T I O N;
WITH RULES TO BE OBSERVED DURING THAT INTER-
ESTING PERIOD.

By B. T. LONGBOTHOM, SURGEON DENTIST.

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DEDICATION.

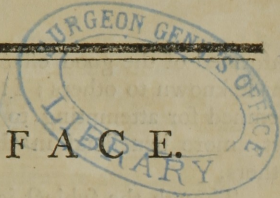
To the PUBLIC of JAMAICA.

THOUGH separated from that island, whose inhabitants claim my kindest wishes, and from whose friendship, even at this moment, I derive advantages which I shall ever remain most truly susceptible of; I must be wanting of gratitude in the extreme, did I permit the first essay of my pen to flow independently to any other channel.

To the public of Jamaica then, I dedicate this small treatise; and should it there find the same candor, protection and support, its author did, during a residence of eight years, he has nothing left to wish, but that its pretensions may justify their patronage, and meet the corroborative approbation of those Medical Practitioners, to whose condescension and liberality he is so infinitely indebted; to whom, with the community at large, could he find language adequate, he would offer the warm effusions of a heart, thoroughly impressed with a just sense of their favors; but altho' inability as a writer denies this, it does not deprive him of gratefully assuring them, with the utmost sincerity, and respect, that sensible and desirous of a continuance of their kind countenance he is, and ever will be, their

Obliged humble Servant,

B. T. LONGBOTHOM.



P R E F A C E.

TO point out an art useful to society, is a duty incumbent on every individual capable of so doing; and the only excuse probably for its omission, is when the misgiving mind imbibes a fear, that it may be imputed solely to a motive of self-interest. Under such an idea, nothing can tend more to reconcile to us the bringing of it forward, than a persuasion that we can convince the public, the advantages derived therefrom, (if not wholly theirs) are at least reciprocal; in this point of view, if we succeed, every unpleasant sensation is removed. —Impressed with such a hope, have I undertaken the following Treatise; not that I am ambitious of being crowned by the applause of successful authorship, or set up for the smallest pretensions to literary fame; the experience I have obtained in my profession, communicated in a plain intelligible manner, is all I purpose; my readers therefore I hope will rather attend to matter, than manner; and seeing its utility, not expect embellishments, of which was I capable, I should not avail myself.

In endeavoring to perfect myself as a Dentist, I have employed some years, and (if a liberal practice does not much mislead me,) I may assert not unsuccessfully; but as even in the most extensive field of practice, there will ever remain a few, un-

informed of the good effects which *experience* has made known to others : I trust I shall not be condemned for attempting to raise in estimation, an art, more beneficial in this climate, than most others.

Though the subject is in some measure new here, I yet hope for every reasonable indulgence, having received the general approbation of the most eminent professors in Surgery and Medicine, who have not hesitated to assert its great utility, and the propriety of my treatment ; which with that candour (the result of conscious integrity,) has been laid open to the strictest investigation.

The word Dentist, has been so infamously abused by ignorant pretenders, and is in general so indifferently understood, that I cannot forbear giving what I conceive to be its original meaning ; viz. the profession of one who undertakes, and is capable not only of cleaning, extracting, replacing by transplantation and making artificial teeth ; but can also from his knowledge in Dentistry, preserve those that remain in good condition, prevent in a very great degree, those that are loose, or in a decayed state, from being further injured, and can guard against the several Diseases, to which the Teeth, Gums, and Mouth are liable ; a knowledge none but those regularly instructed, and who have had a long, and extensive practice, can possibly attain ; but which is absolutely necessary, to complete the character of a Surgeon Dentist.

Little it is presumed, need be said to induce every one to pay that attention to their teeth, which such useful ornaments require ; particularly that part of the creation, in whom as a contemporary

has observed “ Beauty appears to have fixed her peculiar feat,” I shall therefore without entering into anatomical disquisitions or latin phrases (which I think more calculated for the *faculty* than the *public*,) briefly explain from whence those complaints, (so generally incident to all,) arise, and offer what I ever found to be a lasting, speedy and effectual remedy.

has collected a recently appears to have included
particulars. I shall therefore submit to you
this material, although some of the papers are
rather more scattered for the purpose of the
present, which explains it in some degree.
I hope to get fairly incident to all this, and
for which I have tried to be a fairly early and
thorough search.

OF
TEETH IN GENERAL.

AS it is impossible to comprehend with facility, any piece of Mechanism, without separately knowing the qualities of its constituent parts; so in tracing the disorders of the human frame, or any part thereof, to their primitive source, it is absolutely necessary we should be acquainted with the designation of each part, that we should know its situation, shape, substance, and the immediate purposes it is calculated to effect. Thoroughly masters of this, we shall seldom find ourselves at a loss for the meaning of him, who may endeavour to assist our researches, nor shall we lose in chimerical conjectures, that time, a fourth part of which (thus aided and properly applied,) would have brought us to the haven of our wishes; but wasted as before hinted, only serves to embarrass our ideas, and deprive us of all ability to distinguish. Few I believe, but what are possessed of the knowledge that teeth were given us for the purpose of mastication, contributing to the distinctiveness of speech, assisting symmetry, and, (when carefully preserved) to add to the beauty of the face;—but few extend their knowledge beyond those self

apparent purposes; to investigate their texture, and from thence arrive at the best and surest means of preserving and even of repairing them. This must be the result of long practice, and uninterrupted attention.

Their substances are two, *enamel* and *bone*.—The first is hard and vitreous, not easily made an impression on, unless by a file; alcalies do not readily affect it, but in acids it moulders away: if broken, it appears striated in texture, and all the striæ tending to a point.—*Ruysch* has affirmed he could trace arteries in it—*Lewenhoeck* suspected each fibre to be a vessel: and *Munro* says he has frequently injected the teeth of children, so as to make the inside of the cortex appear red. Mr. *Hunter* assures us no injection is subtle enough to penetrate it. Enamel is often destroyed by filing, denudation, &c.; but it by no means follows that the tooth will decay: on the contrary 'tis argued, there are some who lose it in early life, yet still retain a good set of teeth to their latest hour; neither is it uncommon on the coast of Africa, to see Negroes who have had their teeth filed or sharpened to a point, and yet retain them in an uninjured state; this I know to be the case, and infer therefrom that nature (ever bountiful) continues throwing out to the age of twenty-five, or thereabouts, a *reossifying* matter, which supplying the place of that removed, negatives the action, which on exposed porous bodies, air is known to have. Those therefore, whose teeth are filed within this period, have little danger to apprehend of their being impaired; I am the more confirmed in this, by some back or double teeth, which have

fallen under my own immediate inspection; decayed and become hollow to the very nerve, they afterwards filled up with an ossified matter, the very *reverse of tartar*, of the exact hardness of enamel, though different in colour, being of a dark yellow; these I was requested to extract, from an idea they retained disease; but assured of the reverse, and their durability, I succeeded in persuading my patient to a coincidence with the same idea, and time has shewn that tho' not so lightly, none are more permanently useful.

The second substance, *Bone*, in teeth is more dense and compact than what called so generally is; each tooth has an inner cavity, which beginning at a small orifice, grows larger and extends three-fourths its length; this contains vessels according to the number of fangs the tooth may have, that is, for each and every fang it has a set, viz. an artery, vein, and nerve, which accounts for an upper jaw tooth being more painful in extraction, or disease, by reason of its treble fangs.—In advanced age, this cavity closes, when the teeth act either as extraneous bodies, dropping out; or losing all sensation, remain firm from an adhesion to the adjoining parts; rather uncommon than otherwise, and which will never be the case with those who use mercury, or who by living on soft victuals, deprive them of the accustomed pressure caused by mastication.—As the enamel covers the bone of the crown, or that part of the tooth, designed to be *without* the gum, so, that called fang, or root, which is contained in the socket, is covered by a perosteum, common to both, and attached also to the gums, thus connecting the whole.

The number of teeth which constitutes a set, is *thirty two*, sixteen in each jaw, but are seldom attained, till after the age of twenty. Some dentists observe in their treatises, on this subject, that *often* no more than *twenty eight* appear; this I deny; it is not *often*, few, very few whose age exceeds *twenty five*, but either have or have had sixteen teeth, top and bottom, mostly in pairs, taking the same both right and left:—hitherto they have been classed like their substances, in *three*; I class them in *four* by following Mr. John Hunter's method, who separating the two first grinders, and calling them *Bicuspides*, judiciously distinguishes a particular class. Thus then there are in each jaw four cutting teeth, two *Cuspidati* canine, (or dog teeth,) four *Bicuspides* (meaning the two first jaw teeth on each side the canine) and six Molares or grinders.

INCISORES have but one fang, and differ not from each other in either jaw, except that the two more immediately in front, in the upper, are broader; as may be seen by viewing them.

CUSPIDATUS are remarkable for their length of fangs, which exceeds every other; and from their situation being so immediately under the eye, are supposed to be connected therewith, and on that account dangerous to draw; this however, (independent of their length) is erroneous; they may be drawn with perfect safety, and convenience, for by the root of this tooth piercing what is termed the maxillary sinus, diseases are often removed by their extraction, which otherwise would occasion far more serious operations.

BICUSPIDES. These have sometimes been known to be wanting, but that scarce ever being the case, we may observe they differ from each other by the upper one's separating in the fang, making in the first a distinct double fang, and in the second, a partial separation; but decidedly they have two sets of vessels. Operators wholly unskilled in the anatomy of the teeth, continually err in the extraction of these, and often leave the fang most diverging behind.—For their information I will observe, so it had best remain for the present; as after a time it will incline to expel itself, and expedite their intentions; I shall give directions of furtherance hereafter, under title of stumps.

GRINDERS. The two first of these in the upper jaw have three fangs diverging differently. The third grinder from not coming before what is termed years of discretion, is called, *Dens Sapientiæ*, or the Tooth of Wisdom, and in the upper jaw, has for the most part three fangs, but in the lower only one, though from a *partial* separation at times, as it were made to appear more. When the jaw forms not so large a circle as at other times, they either decay, or incline to expel themselves. The other grinders in the lower jaw, have only two fangs, nor are they so necessary as above, the sinus in which they are inserted being much firmer.

Here then, until I again take it up in Dentition, shall I leave the physiology of the teeth; premising as before hinted, that the intention of this is simply to render the reader adequate to the comprehension of the practice hereafter laid down, and to judge the rationality with which it is pre-

scribed ; had I ever met with any thing equally diffuse in as small a compass and general use, assuredly I should never have made the attempt. But let no one suppose for an instant, that I imagine what I am herein about to communicate can tend to form a regular Surgeon Dentist : such a character will find some useful hints, but to complete him, not any thing can, but a steady attention to the anatomy of the parts, lectures thereupon from able professors, and an extensive *practice* varied by continuance.—A few years only have elapsed since Dentistry became a study, much *has* been acquired, but more also remains to be so ; with the advantages of those before me, as universal a connection with medical practitioners, or perhaps greater than any one in the same line, was ever indulged with ; aided by a long, and extensive practice, I am free to confess myself young in the profession, and ready to be instructed by any one, who can and will so far honor me. Nor am I as I before observed, induced to this little publication, but as an incumbent duty and proof of my gratitude to the many, who are endeared to me by a liberality experienced by no other dentist in the same island.* My first observation will be on

IMPROPER APPLICATIONS.

No Dentist but reviles these enemies to a good set of teeth, while those who are possessed of them, from a worthy emulation apply too fre-

* It is necessary to observe, the Author commenced this Publication for the Island of Jamaica, where he practised eight years.

quently to their aid. I allude to those vile *Nos-trums*, which under the title of '*Dentifrices*,' are to be found in every quarter of the globe; and whose properties instead of answering the purposes promised, almost ever bring disappointment, not unfrequently attended by the most dreadful consequences. Will it not strike every thinking person, that a liquid, or powder, containing acrimony in its composition sufficient to dissolve a concreted substance, like that on the teeth called *tartar*, will also destroy the *enamel*, which, when even slightly injured, too often exposes the teeth to premature decay.

It would be needless almost to mention a more convincing proof, of the manner in which these *nostrums* act, than by reminding the consumer of the nervous sensation arising from their use, by setting (what is termed) the teeth* on edge, or recalling to their view, the timidity with which they are recommended even by their *inventors*; whose very labels indicate their evil tendency, by requesting they may be used *only* so often, and directing that the mouth be *immediately* washed from any remaining particle.

Powders of this injurious description mostly consist of pumice stone, sandiver glass gall, emery, allum, vitriolated-tartar, cream of tartar, borax, salarmoniac, bole-armoniac unprepared, cuttle-fish-bone, calcined hartshorn, burnt bread, gum, myrrh, bark, tobacco ashes, and various other things equally destructive. These are coloured by

* This sensation is also produced by certain sounds, or food having an acerb or saccharine quality.

rose-pink, sanguis draconis, cochineal, alkanet root, &c. and their taste rendered deceptive by camphorated spirit.

As a more favourable opportunity may not offer for my answering a question, not unfrequently asked me; viz—Why, when so strenuous an advocate against the use of powders, opiates and lotions, I myself, have them to dispose of? I beg leave to reply, that to *either*, as they ought to be prepared, I am not averse, were persons who are in the habit of using these articles, acquainted with their composition, and perfect judges of their good or bad qualities, and governed themselves accordingly, or were they conversant with the character of those who prepare and offer them for sale, and assured they merited the confidence reposed, I should no longer object to their use in moderation.

For my own it is a duty incumbent on me, and which I execute with pleasure, to say 'tis no such *arcanum*: it cures not so infallibly. As reasonable would it be to expect, *one* medicine to cure the whole *routine* of animal disorders, as that one lotion or powder should the variety the mouth (the most delicate of the senses) is subject to. I take upon me to aver no medicine is capable of so doing, nor is it compatible with common sense to expect it. The best and greatest merit a *dentist* can claim, is, to keep his preparations as free from acrimonious mixtures as possible; and to offer no powder for sale, of a harder substance than the body it is intended to remove. To be convinced how injurious such salines or acids are, let a tooth accustomed to be cleaned therewith, be viewed

through a microscope, when innumerable perforations will proclaim the depredations made.

Or that any one may otherwise determine on their injurious action, let a well enamelled sound tooth be fixed in a vice, wet a brush and dipping it in a powder whose qualities you wish to define, apply it with the accustomed friction usually made use of in cleansing the mouth to that tooth, and if it contains (as nine times in ten it does) pernicious particles, in the space of one hour and an half no enamel will remain on that part exposed to the action of the brush ; from hence let him calculate, and on the most moderate computation, it will be a good enameled set of teeth indeed, that can last (against such a powder) unimpaired, more than three years.

Liquids may be enquired into by immersing a similar tooth within them, and placing the bottle in a warm place, sixteen days is generally sufficient to strip it and destroy also a portion of the bone, provided it possesses not a greater share of oil than such bones usually do. In some the enamel has a natural discolourment throughout, in which case every attempt to make it white must prove futile.

Would those who have an objection to permit a dentist to inspect their mouth, use only a brush from time to time, chosen for its hardness, it would often be attended with the happiest effect, and let all acids, alcalies, &c. be banished the toilet, as prejudicial in the extreme. The brush should be used in a transverse direction, (direct up and down) so as to carry with it the appearance of brushing the gums from the teeth, which from

their vascular nature, will daily become more firm, and free from scorbutic affections. Having spoken of *dentifrices* and their effects, I shall endeavour to describe the body they are intended to remove, under the name of

T A R T A R.

This in its first state is a glutinous body of inspissated saliver, formed while the muscles are in a state of inaction, and the salivary glands and ducts not pouring forth so profuse (as when we sleep) this, though common to the mouth in general, finds only a place to deposit on the teeth, from their interstices, and inelastic substance, whose qualities (unlike the other parts more soft) yield not that continued oozing moisture, which destroys either consistence or adhesion, and constant dissipation ensuing, it in time becomes of a calcarious, stone-like texture, uniting so firmly to the *enamel*, as by many unacquainted with their structure to be taken for a part thereof; and as such suffered to remain excoriating the gum, and by its pressure raising the teeth from their sockets; or where it fails to do this, it never does to insinuate itself between the gum and the tooth, destroying their connection and generating inflammation, pain, fungi, foetid breath, and in short, by causing a stagnation of the juices, almost every disease to which the gums are subject; with some it accumulates so fast, as to surpass belief; but generally originates in uncleanness, and as mastication for the most part keeps the body and edges of the teeth free, wedging the tartar on to the neck, unless broken or chipped, it is not readily felt.

Of this body there are several sorts more or less injurious, as the white, yellow, black, and what heretofore has been called *green*. The three first should be carefully removed, by what is termed scaling; the latter in fact is no tartar at all, but a species of staining *slough*, which by its vitiated qualities, forming a sceptic acid, acts still more readily on the enamel, thereby getting access to the bone, which from its porous nature dissolving, leaves the interior cavity containing the nerve, and other vessels open, which while living and exposed to the air, never fails to occasion the most excruciating pain: the remedy for which is, actual or potential cautery; carefully filling up the cavity with some malleable metal; as gold, silver, or lead leaf, the former to be preferred for cleanliness and durability:—this is called plugging or plumbing, and will continue its position in the tooth, sometimes for twenty or more years.

When this cannot be effected, and the party will not undergo the momentary inconvenience of having it extracted, care should be taken to file off any sharp edges* or points, which by repeated contact may annoy the tongue or surrounding parts. Where this fails, recourse must be had to extraction. In all cases where cauterization is used, great care ought to be taken to deaden the

* From a neglect of this kind, I have known a cancer on the tongue ensue, which terminated the persons life: I, myself, had a patient in Kingston, who died in consequence of not removing the jagged roots of a decayed double tooth.

Children born with teeth are sometimes similarly treated, either rounding them with a file or removing them altogether, being very apt to wound the lip or under part of the tongue.

nerve, for should that be but slightly wounded, much pain will ensue.

Where tartar has formed in any prodigious quantity, it is not advisable (particularly in variable climates) to remove the whole at one time, as by losing so considerable a clothing, the enamel and neck of the teeth become extremely sensible to heat, cold, or acids.

The sceptic acid or green slough alluded to, is to be removed by gentle attrition, and proper dentifrice, or if the enamel is deeply dyed therewith, a weak alkali, or gentle vegetable acid may be used discretionally, but on no account after it has disappeared.

CARIES OR DECAY

Often proceed from neglecting that necessary custom of daily brushing the teeth, whereby all artificial bodies are prevented concreting thereon; it also takes place from blows, falls, touching another tooth and the like, but seldom gives pain until (as before observed) the enamel is gone, and the nerve exposed; this may often be prevented by filing away the affected part in time, yet even where this cannot be accomplished to answer the desired purpose, care should be taken to remove, sufficient to prevent its touching an adjoining tooth as a similar decay will ensue: Thus have I beheld a beautiful row of teeth rotted to stumps; and emitting the most odious effluvia from no other cause than inattention to that tooth which first decayed. The French are much in the habit of passing a file between each, sufficient to create a divi-

sion for the passing of a tooth-pick. I am aware many will object to this, from an idea that by removing the enamel, we subject the bone to premature decay; but daily experience proves it done with safety, for enamel towards the sides and edges of Teeth is thicker, and will frequently admit this operation, without exposing the smallest portion of the bone, but which if it is, seldom decays.

The symptoms of decay is a shining blackness on the surface of the tooth; the front ones have an opaque spot, on the inside of the enamel; and the grinders shew it by a crack on their base.—Where the pain is periodical, the application of a roasted fig on the inside of the cheek, or bark will sometimes remove it. Persons having Teeth in this state should be careful not to be in extremes, as drinking liquids very hot or cold, biting thread, picking them with pins, cracking nuts, or other hard substances; indeed it would be well, were every person equally guarded; for admitting a doubt of their doing *harm*, none can be of their not doing *good*.

DECAY *OR* DENUDATION

Is brought on by mineral exhalations, as may be seen by the Teeth of miners, sugar-boilers, and others similarly employed, which are either destitute of enamel, and have a rough appearance, or are of a disagreeable yellow colour; here a proper* lotion and soap composition should be substituted

* As every Dentist has for sale mixtures of the kind, and it is natural to conclude each imagines his own to be the best. To the severest censurer, I trust I shall be acquitted in

instead of powder, high seasoned food avoided, astringent and sweetening medicines made use of, to purify the blood, removing with scissars the points of unhealthy gum, within the interstices of the Teeth. The small pox creates the like appearance, or indents on the Teeth, as denudational decay.

S O C K E T S.

These occasionally also decay, though not so frequently; the cause—obstructions in the vessels, colds, &c. This mostly occurs to persons of a debilitated habit; those more advanced in age are an exception; as from want of those nutritious juices, the sockets become absorbed—warmth is the best remedy.

Where the whole of the Teeth are wanting, the length of the visage is considerably diminished; evidently, from the lower jaw being permitted to rise two inches at least, more than when the Teeth are therein, and come in contact with those opposite.

G U M S.

Those who seek the preservation of their Teeth, must by no means neglect that vascular body in which they are encompassed, and on which they may be said chiefly to depend. This is best

recommending those I make. In the interim, as they may not at all times be attainable, I would for the antiseptic lotion, premise an infusion of Bistort or Tormentil-root, roses, or such like, and for the soap, the purest of that sort denominated *Windfor*.

done by friction, from as hard a body as admissible, giving at all times a preference to a brush, as calculated to enter the interstices. Gums in colour, should be of a pale vermillion; firm, elastic and free from all scorbutic affections, which are the fore-runners of gum-boils, abscesses, excrescences, callous thickenings, ulcers and scrofulous.

G U M - B O I L S

Are secondary diseases, produced by the swelled fangs of a decayed tooth: the symptom—a protrusion of the gum, which swells and bursts; when this happens internally, a cure may be performed by lancing it to the bottom of the cavity, where the purulent matter rests, nearest the dependent part; keeping it open with lint, dipped in tincture of myrrh, or some stimulating balsam, until a granulation takes place, when the mouth should be washed with a lotion, if matter continues to ooze after this, the tooth must be extracted; if it be a useless stump, it would be best so to do in the first instance, and as inflammation is generally least on the inside of the mouth, I generally draw inwardly. Where boils are not large, frequent rubbing with the finger will disperse them. In cases of this kind, where good teeth have been extracted, I have known them after being reduced, and the nerve destroyed, to be returned, but seldom with success.

A B C E S S E S.

Attention must be paid to prevent these forming an opening, on the external side of the face,

as tending to a lasting disfiguration; to counteract it therefore, one is to be made between the gum and the lip; and in this case it is, I am sometimes induced to draw the canini; which, piercing the maxillary sinus, either gives an immediate outlet, or, by a small puncture through its bone, admits of one being made for any residant matter.—Where this is done with effect, a pledget of lint kept constantly applied, and changed—serves to absorb and prevent great portions of the matter being carried to the stomach; this complaint often misleads the patient to attribute it to, and get found Teeth extracted, a thing wholly useles, unless where the last is adjudged by piercing like the canine, to be a preferable outlet. All sternutatories are good in this case, as the nose should be constantly blown, alteratives also are to be taken.

E X C R E S C E N C E S

Sometimes are very large, and not seldom put on a cancerous appearance. To extirpate them vitriol may be used, slightly touching them twice or thrice a day, keeping the surrounding parts healthy, by a free discharge of the uncirculating blood; if this fails, the diseased part may be removed, with a knife, stepticks being at hand to prevent too great a bleeding, (the female drug) Agaric, is excellent for this purpose; and my lotion, or an astringent substitute should be given to wash the parts. I have known tumours removed four or five times before they ceased to re-appear. Where they arise from hollows in the Teeth, those Teeth are to be drawn.

CALLOUS THICKENINGS

May be treated after the same way as excrescences. Frequently bleeding the gums, and removing the tartar, will generally remove them, while friction from the regular used brush will keep them absent.

ULCERS

Of all kinds require the most attention; as originating from internal as well as external causes. Here to prescribe remedies would be endless, as they must be varied with the disorders; I will hint only two things, that the more cleanly and early they are administered, the more effect they will have from the adjacent parts being less liable to sympathy.

SCROFULOUS

May, I think, be classed among those many diseases (as I have before hinted) generating from uncleanness; those who are attentive to the brushing of their Teeth, seldom being troubled therewith: it shews itself by forming one or more pustules, which spreading become general to the whole mouth; often burying themselves deeply in the neighboring soft parts. Here the physician should be called on for an entire purification; after which the lotion will have due effect. *Scarification* must be avoided.

NERVOUS PAINS IN THE JAWS,

Is the physician's province, and need only be noticed in a treatise on Dentistry, as they have as-

sisted to lead operators astray ; and to them and severe colds, are the barber-dentist's windows in London, and other great cities, indebted for the fine display they make of good sound Teeth ; it is a pain only known to belong to the jaws, and is thought by Mr. Hunter, to be brought on by affections of the mind. I had a female patient in Jamaica, whose jaws were at times so extremely irritated by this complaint, as by causing the upper and under Teeth grating against each other, to create a noise exactly similar to that made by parrots. I relieved her considerably, by cork, cut in fashion of the circle which the Teeth formed ; and after by prescribing change of climate, found she nearly had conquered the disease. Sea-bathing, hemlock, and blisters below the ear, have been tried with various success. I think the cold bath has assisted my practice in more than one instance ; however the first thing to be applied is the blister and following pill ; two grains of extract of hemlock, one of camphor, and one-fourth of a grain of opium, given at night : cold bath in the morning, the blister to be kept open by perpetual or other ointment, green tea given up, and valerian used in its stead, to which add pleasant amusements.

Pregnant ladies are very subject to a similar complaint, but certainly no regular practitioner would so far commit himself as to be induced to draw a Tooth, while assured the pain proceeded from an obstruction in the vessels. Let me also caution them from giving stimulatives, the application of a roasted fig internally will answer much better.

S W E L L E D F A N G S

There is no remedy for but extraction, altho' in some instances they may be returned.

I N F L A M M A T I O N.

Except as noticed under the head of tartar, arises from colds, warmth therefore is the best recipe. Washing the mouth with a lotion, brandy and water, or other diluted spirit.

E X O S T O S I S.

This is an overgrowth of the bone, which proceeds from a decayed stump-tooth, protuberant swelling, or injured jaw; nothing can be done but by an experienced practitioner, who will most likely remove the extraneous bony matter.

S C U R V Y

Is little understood, what called so being no more than inflammation arising from collected tartar, and the stagnate juices it creates; and is readily removed by what Dentists term scaling.—But real scurvy is when no tartar is to be seen the gums bleed on the most trivial pressure, breath foetid, Teeth loose, alveoli diseased from irritation, and in the worst stages matter discharging continually. As this does not always give pain, assistance is seldom applied for, until the Teeth either have or are about to drop out of their sockets; which accounts for the little benefit received.

The first step to be taken must be towards an entire purification of the system, by a correction of its juices; best performed by a regular course of Medicine, sea-bathing, and washing the mouth with salt-water, will then be found beneficial. In nervous systems, the bark taken regularly three times a day, and tincture of the same held in the mouth, will prove very efficacious. I have already said, where a tendency to scrofulous exists, scarification is to be avoided. Patience both on the part of the patient and operator is absolutely necessary, as repeated operations are likely to ensue and much time elapse, ere any permanent or apparent advantage can be derived, particularly where the gum is to be made re-adhere, which can only be when the physician has completed his part, and is done by removing the edges refusing to adhere, and creating a re-birth of gum, which seldom fails to attach itself.

Any tooth-ach may be mitigated by the careful administration of opiate, a few drops of nitre in spirits, or gently brushing the Teeth with mixed ether.

A B S O R P T I O N

Is when the germ designed to form the Teeth is taken up by the absorbent vessels (or otherwise) as to render the deposit of no effect—no Teeth then appear, or if any, so deformed as to be second thereto; if this happens in the first set (or milk-teeth) the juices may be so corrected, as to render the second more permanent. I have known the same effects from other causes, such as mercury given for the worms, the nurses milk breast be-

ing diseased, or an inherent venereal. In age it acts or shews itself, expelling the Teeth by degrees, and then I believe no remedy has been found certainly to cure it, altho' blistering and the cold-bath have proved efficacious in a few instances.

M E R C U R Y,

I have more than once hinted is a most dreadful destroyer of the Teeth ; much caution is therefore requisite to prevent any remaining particles while taking of it, lodging within their hollows or cavities. In the year 1797, agreeable to the request of a medical gentlemen of Kingston, I accompanied him to visit a lady about thirty years of age ; on examining her mouth, I found the whole of it with the gums and tongue much swelled, the Teeth inclined to loosen, and her throat so inflamed, as scarce to permit her swallowing necessary aliment ; she spit considerably, and complained of a brassy taste. Determined in my opinion, I communicated the same to the physician, that mercury had occasioned these appearances. We differed in opinion, and he treated it as a fore-throat.

A day or two afterwards, he again desired my attendance to draw some of the Teeth, which he said were now become so loose as to be in hourly danger of dropping out.

I found her breath offensively foetid, and therefore more confirmed in my first opinion that it proceeded from mercury alone, I enforced the not removing Teeth altogether sound. Aware that certain animalculæ were occasionally troublesome

to both sexes, and induced at times the use of a certain ointment or powder, not the most innocent, I delicately investigated but without success. I was on the point of taking my departure, when casting my eye upon a glove I perceived had recently been applied to rub in mercury. The business was elucidated—a favourite little negro for some days past had undergone that operation from the fair hand of its mistress, covered with the said glove.

By proper treatment this lady overcome every sensation of pain, but considerable time elapsed before either the gums or Teeth recovered their pristine state.

T O B A C C O.

The smoking and chewing of this herb is frequently introduced from the vehement pain of the tooth-ach, and with most constitutions paves the way to a far more dangerous disease, than it is intended to remove, by its acrid and internally violent qualities, in the act of fumigation being inhaled, and the chemical oil which it leaves within the hollows of the Teeth, disposes them to blackness and premature decay; which tho' less obnoxious for the present, proves a lasting enemy to the mouth and stomach.

T O O T H - A C H.

Human nature subjected as it is to a variety of complaints, appears persecuted by none so frequently, as by that universally known under the

name of tooth-ach. None is less pitied, none less studied, and in consequence, none more erroneously treated.

Medical practitioners, though daily called upon to operate, allow it, (why I don't know) to share no part of their consideration ; but if an unfortunate wight applies for relief, (which they do sometimes nine or ten in a day) Doctor Lafts remedy is had instant recourse to, and (if it will) *sound or otherwise*, out it must come *by the roots*. Many are the objections to this cruel procedure, the operation occasionally is of so difficult a nature, that the most skilful dentist may be scarcely adequate to the task. Possibly the parts are so inflamed, as to render the necessary pressure insupportable ; or what is still more likely, there may be no occasion at all, for the removal of a Tooth.

To separately point out all the disorders whence tooth-ach may arise, would alone fill a larger treatise than I purpose this to be ; suffice it, that to those already described, I add such as are most likely to occur. The first will be that termed *sympathetic*, and is generally felt in a sound double tooth, caused by a decayed one in another part, which being plugged, or otherwise preserved from the action of external air, will bring relief to its suspected neighbour ; or drawing the decayed tooth will most assuredly.

INFLAMMATORY TOOTH-ACHS

Are mostly attendant upon youth ; and will accordingly be noticed in Dentition, but as it also attacks adults, it is proper to observe, when peri-

odical, it is rendered so by costiveness, which, if removed, generally brings a cure, if afterwards it continues, it may be imputed to cold, in which case warmth is to be administered, studiously not making it a partial one, that is, suffering one application to be thoroughly cold before another is applied.

E L E C T R I C I T Y

In gentle shocks, has been prescribed, but is very justly directed to be used in the early part of the complaint; or like partial heat they become injurious. Wherever suppuration is necessary the fig or bread and milk poultice will best effect it. I never hesitate to lance the gums where scrofulous does not exist, it is at all times beneficial.—The Teeth cause also another pain, in which every part as low as the breast, actually sympathises, and so resembles that occasioned by *rheumatism*, as to have obtained the name of *rheumatic tooth-ach*. Not any thing but the extraction of these Teeth, will convince the party so afflicted, that tooth-ach is the cause, nay, persons long possessing it, will insist the pain is not lost with the extraction, but usually it disappears with the cause. Extracting of a Tooth beside another, by exposing of its bony part may give pain. Cariated bone from extractions long past, will raise imaginary tooth-ach—Concealed matter, exostosis, dentition, lost enamel, looseness, fractures, gums receding, extravasation, obstructions, and many other things, will give pains, for which no Tooth need be drawn.

One kind of tooth-ach particularly deserves notice, as, to indifferent observers, it both comes and goes without any apparent cause; it begins by an impression on the spirits, pain in front of the head and gums, swells the face to distortion, brings on a great discharge of saliver, while all the Teeth are in a thorough sound state; with many it returns at regular, though distant intervals. I impute it to an overcharge in the vessels, which by creating a tension in the pituitary and other membranes, negative or obstruct a proper circulation of the fluids, and though repeatedly entreated to extract a tooth, for the purpose of giving ease, never would accede. Cooling purgatives, abstinence from gross diet, and a tolerable sized blister, if it will rise on the nape of the neck, may almost ever be depended on for a lasting remedy.

P I C K I N G T H E T E E T H

Is of infinite use, and should be more generally encouraged; but never performed with a less yielding body than a quill.

S U P E R N U M E R A R Y T E E T H

Are such as exceeding the number of a set, project, croud, and disfigure that agreeable regularity, so pleasing to the eye—they tend to make us lisp, cut the tongue while speaking, and feel at certain periods; a sensation the most unpleasant.

These we are indebted for to the inattention of our parents, guardians, or others, to whose care we are entrusted in early life; and who, unless their charge complains of pain, leave nature to discharge the first Dentition, in which originates the cause; or employing a practitioner, deny him that continued access, so necessary to ensure effect. Some few seminaries indeed and private families, are attended regularly at stated periods. I, myself, have had many, which I attended once in each month, when every child's mouth was examined. This becomes necessary about the sixth year, though all children ought to be taught the necessity of using a brush from their third or fourth.—The anterior Teeth claim our first regard; instability is the symptom, and as those to replace them, are larger in common than the first, it is not only proper to withdraw those, but the adjoining ones on each side, thus having no resistance to contend with, an even birth ensues, and by encouraging at proper intervals the like arrangement, equally throughout, a permanent, beautiful, and regular set may be procured. Where this has been neglected, they may be drawn in most instances safely, and where required, may be directed to the wished channel by ligatures of silk, plates formed of silver, pressure frequently repeated, or by three or four other modes peculiar to those who practise them. I have met some jaws inadequate to contain within the proper circle the pertaining Teeth, in which case the Tooth of wisdom would often incline desertion where it did not, and all were found alike, that most irregular is the one usually removed. Mr. Hunter points out the bi-

cuspides, but for myself in young subjects a diseased Tooth would be my aim, as from the flexibility of the parts, there is little doubt of the vacancy being supplied by the yielding Teeth on each side filling up the space.

REPLACING OF A TOOTH.

This I think is best done with success in wrong extractions, and with most security when the operator does not let the agitation occasioned by the accident, deprive him of attention, to put it right in place and figure; the blood if possible, should not be permitted to coagulate, but if so, broken. Should the Tooth have fallen, or otherwise acquired dirt, it must be removed by warm water. I have been fortunate in substituting, or

TRANSPLANTING TEETH,

But by no means encourage a desire thereto. It is a species of inoculation and therefore dangerous; circumspection is absolutely necessary. I have procured them rather smaller at one time than the socket they were intended for, and at another rather large, yet in both instances succeeded, the latter time by reducing with a file. I have inserted dead Teeth also with success; but sincerely believe their adherence to be owing entirely to the nicety with which they fitted. I would advise all young practitioners to avoid and decline these performances, lest an unlucky occurrence should prove an injury to their practice.

However, if they are induced thereto, let an able physician be their assistant, to regulate the system, abate fever, &c. &c. until the Tooth proves firmly rooted.

The operation of having living Teeth transplanted, would more effectually and frequently be answered, did those who undergo it pay that attention it demands; but sorry I am to say, tho' many are found desirous to possess beauty, health, and ease; few are willing to bestow that regard so requisite for their attainment. The first prudent caution is, to make sure as possible that the parties are in proper state of health, and that no remains of mercury exist in either system. The Tooth then fixed in that position it is intended to remain, (without force, which by causing it to press improperly, the periosteum frequently originates disease) let silk, sea-weed, or a white thread waxed, be tied as high on the neck of the adjoining Tooth as possible, then fastened on the body of that transplanted, and then (as in the first instance) to the neck of that tooth on the other side: thus making, as it were, its two neighbours support it firm to the bottom of the socket; this fastening should, (if not inconvenient) be permitted to remain until decay removes it, for by subjecting the Tooth to instability at too early a period, adhesion, if not totally destroyed, will be longer taking place: the patient should be tenacious to give as little motion as he can to a Tooth of this sort, until persuaded it is equal thereto, neither should he by sitting in a draught of air, risque the catching cold. I have heard and read of double-teeth being transplanted, but cannot say I give it

credit, the improbability ever appeared to me too obvious to need a trial.

D R A W I N G.

The impressed apprehension exhibited by many while getting a Tooth extracted, is not only misplaced, but unless under the hands of a very skilful Dentist, may be attended with the serious consequence of drawing a *wrong* ONE; breaking that intended to be drawn, or otherwise injuring the mouth. Neither patient or operator should be timid or in haste—most practitioners in their own houses have a chair, the back of which may be accommodated to that height requisite to rest the party's head. Extraction is difficult or easy, as circumstances render it, but at all times may be performed by the common *turnkey* instrument, to which, as generally in use, I shall confine my directions. Each instrument has a variety of claws, you will select that best adapted, and before it is applied, enwrap the lever or end of the key, in writing paper folded to its shape, so as to break or soften that pressure necessarily used upon the gum, which for a hazard of adhering, must be carefully lanced around the Tooth, the claw being properly applied as near to the socket as possible, regarding it be not on the socket itself, gradually turn the key with increasing force, and your purpose will be effected. The back or double Teeth are best drawn inwardly, as may be seen by their position. The incisores require a much larger claw than any, and the paper considerably thicker, by which means you take a firmer grasp

on the bony part beneath the gum, and draw it nearly in its own axis, or say perpendicularly, if the jaw is narrow; these, like the molares, will draw easiest on the inside. It is seldom that any hemorrhage ensues, if it does, gentle steptics will not avail—let a pledget of lint be dipped in oil of turpentine, and tightly compressed upon the wound, the root agaric or cork cut in shape of the root removed, placed within the socket, and held firmly down by the opposite Teeth, will also stop it effectually. I never knew any serious consequences take place from a bleeding of this kind, unless where ignorance to stop it was the occasion. In a few instances I have had the edges or small portions of the alveoli adhere to the Tooth, but this is unworthy notice, if we reflect nature disposes them to decay; whenever deserted by the Teeth, should a point of bone appear, it may be filed; or should a still more serious case occur, remedy is offered under the head of

E X F O L I A T I O N.

This is when a Tooth or portion of bone inclines, or shews a disposition to leave the place it was originally destined to supply, and as such portion of bone may be out of sight, and perhaps unthought of, by reason of its injury being received long before in drawing, a blow, or some other cause and protemporary readhered: innocent Teeth are imagined to create the pain, although sound, it is then only to be known by description and pressure on the part, these together discovering it to be a splinter, the gum should be lanced there-

to, and with the fossil's pliers, or other instrument, the extraneous piece removed, astringent tincture or lotion then applied, a few days, will serve to heal the parts.

S T U M P S.

The extracting of these, like those of Teeth, will be found difficult or otherwise, but for the most part easy, as if properly lanced they may be removed by a simple application of the finger nail, or raised by a stiff sharp pointed instrument, the best lever for which, you will find to be the first finger of your left hand, attention is to be paid to the instrument, lest by slipping it wounds some other part. Where considerable force is necessary, as will sometimes occur with the double or treble fanged molares, the turnkey may be used; nor is it necessary always that the stump be seen, provided it be sensibly felt by the instrument applied.—Where artificial Teeth are purposed to supply the vacancy, it becomes adviseable to retain the stump if it be a sound one, as with a golden pevit a new crown can be grafted thereto, in all respects resembling the former Tooth. Where stumps are retained from other motives, such as fear, or with a view to prevent the falling of the jaws, their cavities ought at all times to be secured by plugging, which negatives putridity or decay.

R A B B I T M O U T H

Proceeds from the circle of the Teeth being too confined, and is remedied by drawing that

Tooth of least value, if all the Teeth are found, one of the cuspidatus; perhaps a silver plate, and the Teeth kept shut, with moderate pressure several hours in the day, may remedy the defect: It also proceeds from another cause, viz. the under-jaw projecting forwards, so as to permit a considerable body to be admitted between, in which case the plate must be reversed and made to throw the upper-teeth outwards. I have tried sticks across the mouth, but they are very troublesome.

MAXILLARY DISEASES;

OR,

UNSEEN COMPLAINTS.

THE reader will remember, that while describing the physiology of the Teeth, I observed the sockets in which they are fixed possess a lining; viz. the periosteum. So has, I am persuaded every cavity the bones contribute to form, and that these linings contain arteries, veins, nerves and other vessels. In a healthy state the mucus they create finds a ready passage through its proper channels, but when by colds or other disorders these become inflamed, until suppuration is effected the matter generated in consequence thereof and confined, causes throbbing and gnawing pain, like that of violent tooth-ach, and if permitted so to remain like the sceptic acid, will destroy and injure not only the fleshy parts, but bones also. In these cases the practitioners must rely rather on diagnostic symptoms than any apparent cause in view.

It was about two years after I had practised as a Surgeon-Dentist, in Jamaica, that Doctor Broadbelt of Spanish Town, requested my attendance, for the purpose of examining a case of this sort. I found the patient a middle aged man,

in a high fever, complaining of a very severe throbbing pain under his eye, which, when lying down, he said changed its sensation to that of a gnawing one, reaching to his ear : On being asked if he was sensible of any matter discharging in his mouth, he replied no, but felt an extreme unpleasant taste proceeding from his nostrils—I examined his Teeth, but found them all perfectly sound ; I then demanded if he remembered to have received a blow on the part complained of ; he said he had a very severe one sometime before the pain commenced, from the head of a restive horse while riding.

The Doctor had tried several applications but without effect ; I told him my opinion, viz. that matter had formed in the antrum maxillare, and that to evacuate it he must submit to have one of the double-teeth drawn, and a puncture made through the socket ; this he immediately acceded to, and as much matter was dislodged, as would, I suppose, have filled the bowl of a tobacco-pipe, it was of deep yellow and exhaled so putrid a stench as to necessitate every person present to quit the chamber. His fever abated considerably that night and left him entirely the following day. The pus continued however to flow from and discharge itself for nearly three weeks, but never at the nose as it before had done ; after this with the assistance of a balsamic mixture, syringed two or three times a day into the cavity, and the mouth kept constantly washed with my tincture diluted by water, this gentleman recovered, and as I have since understood, never has had a return. I could mention two or three instances where similar treat-

ment proved equally effective, with this difference only, that the alveolar being broken and shattered required removal, and was supplied by an artificial piece of sea-horse's tooth.

F E T I D B R E A T H S.

These though readily discoverable to another we are seldom sensible of ourselves, it may therefore be correct to inform the reader, that whatever creates putridity in the mouth, assists also to form foetid breath. Mercury, the lungs in an ulcerated state, febrile disorders, hollow-teeth, portions of the food suffered to remain between them, or any of those complaints already treated on, *without cleanliness* will tend to render the breath offensive, and I hesitate not to believe a considerable body of persons so affected, closely shut up in a warmer place where the confined air received not that ventilation we usually experience, might generate a disease as injurious in its effects as the yellow fever. For, to reason from *small* effects to *great* ones, let any person whose organs are in a perfect state of health be confined to a close carriage, with one whose gums and Teeth are the reverse, provided the glasses of that carriage be not down, the air so confined in the course of fifteen or twenty minutes, will become insufferable.

E R U P T I O N.

Of this there is no speaking positively, its appearance depending on the constitution of the infant, some cutting them at two or three months,

others much later, and instances are not wanting of children who came into the world, with two, three, and even four Teeth; these examples are few, and it is not until the sixth, seventh or eighth month that a healthy child cuts the front incisores of the lower jaw; immediately after these follow those in the upper, and so on alternately, until eight Teeth are cut; after this the child continues easy during one, two or three months, when symptoms of irritation again take place, and continue till about the eleventh or twelfth month, when one, and sometimes more of the canine appear, but usually in succession: thus then we have twelve Teeth in little better than the first year. About the eighteenth month appear the bicuspidés and grinders, (or perhaps later) they generally come in pairs, and enable children to commence the mastication of more solid nourishment. By the close of the second year, the other four will be added; which compose those called milk-teeth; with which they must rest until the sixth.

That *Dentition* is attended with great danger at times, we need not be surpris'd, if we reflect that every Tooth has to pass through a bony lamella, which covers the socket; and likewise through the periosteum and gums; the symptoms of irritation become more or less alarming in proportion to the resistance formed by these three bodies; and numbers of Teeth seeking a passage at the same time: thus then may we as in thousands of other instances, observe the wise dispensations of Providence, which permit not the whole body to make its way at once; whereby children must inevitably fall victims to severity of pain. About this period

care should be taken to provide them with some hard yet yielding substance, for the purpose of chewing ; a disposition for which they never fail to shew, by applying their fingers, or any thing within their reach. This alone will not relieve—on the contrary, the gums are frequently inflamed, attended with severe fever, costiveness, and constant running of the saliva, and not unfrequent convulsions : great care must be taken to relieve these symptoms, which too often bring on death. Lancing the gums has, I am positive, nineteen times of every twenty, when practised and repeated as often as necessary, saved the child's life. Many assert its inutility, and unless properly performed, undoubtedly it has less effect, but so simple is the operation, I have known old women perform it in England, with a thin piece of silver made sharp, to as good effect as the most expert surgeon would with a lancet. Medical gentlemen often object to the cicatrix, but let me ask, can this create more than a less painful repetition ?

Where convulsion exists, the infant should be immersed in warm water, only leaving room for respiration, let six drops of æther be mixed with water, and given in a table spoon. Rub the stomach with a little of the same, and apply hartshorn to the nose ; this is done sometimes without appearance of relief, but be patient and not too premature, in administering an increase of dose. Every quarter of an hour or twenty minutes will suffice ; when, if you add one or more drops of laudanum, it may not be amiss. The body must also be opened, for which a clyster of milk is good ; I have seen coarse sugar, and even salt added

thereto, but never found use for them, unless in very severe trials of the disorder. Tender parents are much alarmed by the symptoms of the convulsions leaving; which I am forced to acknowledge too nearly resemble those of death.

These once over, care must be taken to relax the system, which may be done by a little senna, manna, or emetic tartar, mixed in distilled water, the proportion, six gr. of the former to three oz. of the latter. A tea spoonful is sufficient, if it pukes repeat it in twelve hours, if the sickness is slight, repeat it in six; where the fever runs very high, delirium will sometimes follow; a blister applied to the back is then proper, taking care it be not too large, and when the symptoms disappear, bleeding with leeches, if they can be had, will prove a good preventative to the disorder's returning.

I forget now the immediate treatise I copied the observation from, but 'tis dated as written, in 1788.

The Author observes, that according to the bill of mortality, the deaths in London, from the 15th of December 1778, to the 14th December 1779, were 20,420, out of which number 7261 were under two years old; which being considerably more than one-third; he proves with tolerable precision, that they might with great propriety be attributed to the little attention paid them while teething, although he admits many must have died of other disorders as well as teething*. Still just-

* Convinced that on so interesting a subject as the one before us, too much cannot be said, provided it be immediately derived from practice, to the observations already offered I shall subjoin those of Mr. Hunter, who, though no Den-

ly insinuating his belief that many also might have been saved ; and if we give this due consideration, we shall find much apparent truth in the premise. Convulsions, perhaps more than any other complaint, constitute this fatal mortality in the infant part of our species, and nothing occasions convulsion so often as teething.

Many of the disorders to which children are subject, originate with their nurses, who for the most part are too inattentive to the food they partake of, while rearing these tender plants, and give thereby to their milk improper qualities.—Spices, animal food, stimulating liquids, &c. &c. ought to be avoided most tenaciously.

To prove how satisfied I am of the action, whatever taken by the nurse has on the child, or rather on the milk ; where I can depend on their taking it, I ever wish the medicine to be administered thereby, as the most tender and efficacious mode.

Let a child teething have wholesome air, food and exercise, and be attentive never to check any breaking out on the head, or discharge from behind the ear.

About five or six years of age, the two following Teeth to those which last appeared, (for they are mostly seen in pairs) shew themselves, and from the twelfth to the sixteenth year, they increase to twenty-eight ; the other four, if we are to have them, which is not always, come about the age of twenty, and complete our set to thirty-two.

tist, acquired more knowledge of the Art, than any one before him.

Persons even so advanced in life as past the age of fifty, have been known to cut, or rather nature at this period has been seen to throw out a fresh set, even after the party had been destitute of Teeth for many years, but these are ever attended with pain, and oblige their possessor to have recourse to extraction ; it is perhaps unnecessary to notice them.

OF DENTITION;

By JOHN HUNTER, F. R. S.

And Surgeon to St. GEORGE's Hospital, London.

(Vide Part II. page 113.)

Teeth at their first formation, and for some time while growing, are completely inclosed within the sockets and gums, and in their growth they act upon the inclosing parts in some degree as extraneous bodies; for while the operation of growth is going on in them, another operation is produced, which is a decay of that part of the gum and socket that covers the Tooth, and which becomes the cause of the very disagreeable and dangerous symptoms which attend this process.—As the Teeth advance in size, they are in the same proportion pressing against these sockets or gums, from whence inflammation and ulceration are produced.

That ulceration which takes place in Dentition, is one of the species which seldom or never produces suppuration: however, in some few cases, I have found the gums ulcerated, and the body of the Tooth surrounded with matter; but I believe this seldom happens till the Tooth is near cutting the skin of the gums.

As this is a disease of an early age, and indeed almost begins with life, its symptoms are more diffused, more general, and more uncertain,

at such an early period, than those of any disorder of full grown people, putting on the appearance of a great variety of maladies; but these symptoms become less various and less hazardous, as the child advances in years; so that the double-teeth of the child, and still more so the second set of Teeth, or those of the adult, are usually cut without producing much disturbance.

These symptoms are so various in different children, and often in the same child, that it is difficult to conceive them to be from the same origin; and the varieties are such as seem to be beyond our knowledge.

They produce both local and constitutional complaints with local sympathy. The local symptoms we may suppose to be attended with pain, which appears to be expressed by the child when he is restless, uneasy, rubs his gums, and puts every thing into his mouth. There is generally inflammation, heat, swelling of the gums, and an increased flow of saliva.

The constitutional or general symptoms are, fever and universal convulsion. The fever is sometimes slight and sometimes violent.

It is very remarkable both for its sudden rise and declension; so that in the first hour of this illness, the child shall be perfectly cool, in the second, flushed and burning hot, and in the third temperate again.

The partial or local consequential symptoms are the most various and complicated; for the appearance they put on is in some degree determined by the nature of the parts they affect, wherefore they imitate various diseases of the human body.

These symptoms we shall describe in the order of their most frequent occurrence.

Diarrhœa, costiveness, loss of appetite, eruptions on the skin, especially on the face and scalp, cough, shortness of breath, with a kind of convulsed respiration, similar to that observable in the whooping-cough, spasms of particular parts, either by intervals or continued, an increased secretion of urine, and sometimes a diminution of that secretion, a discharge of matter from the *penis*, with difficulty and pain in making water, imitating exactly a violent *gonorrhœa*.

The lymphatic glands of the neck at this time are apt to swell; and if the child has a strong tendency to the scrofula, this irritation will promote that disease.

There may be many other symptoms with which we are not at all acquainted, the patient in general not being able to express his feelings. Many of the symptoms of this disease are dangerous, namely the constitutional ones; and also those local symptoms which attack a vital part. The fever indeed, seldom lasts so long as to be fatal; but the convulsions, especially when universal, frequently are so. Local convulsions, if not in a vital part, although very violent do not kill; and when any part not vital sympathises, the patient is generally free from danger; a security to the whole being obtained by the suffering of a part which is of little consequence to life.

Universal sympathy seems to be the first effect of irritation, and in general appears as such in those whose local and partial sensation, and irritability, are not yet formed: for, in such sub-

jects, when one part is irritated, the whole sympathises, and general convulsions ensue. But as the sensations and partial irritability begin to be formed, each part acting in some degree for itself, acquires its own peculiarities, so that when a local disease takes place in a patient that is very young, it is capable of giving a general disposition to sympathize; but as the child advances, the power of sympathy becomes partial, there not being now in the constitution that universal consent of parts; but some one part is found which has a greater aptitude than the rest to fall in with the local irritation; therefore the whole disposition for sympathy is directed to some particular part, and it sympathizes according to its own peculiar action: this arises from the different organs acquiring more and more their own independent sensations as the child grows older; and gradually losing the power of sympathizing with one another; so that by the age of six years few parts suffer but those immediately affected; and in adults who cut their Teeth, we almost always find the pain and other symptoms confined to the part, or only local sympathy taking place, such as a swelling of the side of the face.

But as the symptoms become more confined, the suffering part is often much more violently affected, than where it has a power of taking in the other parts. Therefore, we find that in adults the pain of cutting a grinder is frequently excessive, and that the local inflammation is very considerable, and often of long continuance*. This is not

* *Vide Case the 3d.*

the case with children ; their pain does not appear so very considerable, and we are certain that the local inflammation is not so great ; that it is confined to the very parts which suffer, and is not diffused over the face ; so that in children the symptoms of sympathy are often more violent than those of the parts themselves. Though it is a fact, that the symptoms of Dentition in adults are confined to the parts immediately injured, it is not always or certainly so, for sometimes as will appear from case the fourth, there will be the strongest symptoms imaginable from sympathy ; which seems to be owing to a peculiar aptitude in the constitution to universal sympathy. These pains in the adult are often periodical, having their regular and fixed periods, from which circumstance they are often supposed to be aguish and the bark is administered, but without effect. Medicines for the rheumatism are likewise given, with as little success ; when a Tooth will appear, and disclose the cause of the complaint ; and by lancing the gums the cure often is performed, but the disease will recur if the gum happens to heal over the Tooth, which it will very readily do, if the Tooth is pretty deep, as these Teeth are generally slower in their growth than the others and more especially those which come very late, they become the cause of many returns of the symptoms. How far children under this circumstance are subject to paroxysms of the disease, is not an easy thing to determine ; but from many of their sympathetic symptoms going off and returning, it would appear that they have also their exacerbation.

O F T H E C U R E.

The cure of diseases arising from Dentition, from their nature, can only be temporary and local, even when it is directed to the real seat of disease; and certainly every method of cure which is not so directed must prove ineffectual, as it can only operate by destroying the effect. Opiates, indeed, will in some degree take off the irritation, by destroying the sensibility of the part; but surely it would be better at once to remove the cause, than to be attempting from time to time to remove or palliate the effect. When the sympathy is partial and not in a vital part, it would be better to allow it to continue than cure it, because it may by such means become universal; for instance, if it is a diarrhœa, the best way is to allow it to go on, or at least only correct it if too violent, which is often the case. I have seen cases where the stomach and intestines have sympathized so much, as almost to threaten death. The small quantity of nourishment that the stomach could admit of, was hurried off by the intestines.

O F C U T T I N G T H E G U M S.

As far as my experience has taught me, to cut the gum down to the Teeth appears to be the only method of cure. It acts either by taking off the tension upon the gum arising from the growth of the Tooth, or by preventing the ulceration which must otherwise take place.

It often happens, particularly when the operation is performed early in the disease, that the gum will re-unite over the Teeth, in which case

the same symptoms will be produced, and they must be removed by the same method.

I have performed the operation above ten times upon the same Teeth, where the disease had recurred so often, and every time with the absolute removal of the symptoms.

It has been asserted, that to cut the gum once will be sufficient, not only to remove the present, but to prevent any future bad symptoms from the same cause. This is contradictory to experiment, and the known laws of the animal œconomy, for frequently the gum from its thickness over the Tooth, or other causes must necessarily heal up again, and the relapse is as unavoidable as the original disease.

A vulgar prejudice prevails against this practice, that if the gum is lanced so early as to admit of a re-union, the cicatrised part will be harder than the original gum. and therefore the Teeth will find more difficulty in passing, and give more pain. But this is also contrary to facts, for we find that all parts which have been the seat, either of wounds or sores, are always more ready to give way to pressure, or any other disease which attacks either the part itself or the constitution. Therefore each operation tends to make the passing of the Teeth easier.

When the Teeth begin to give pain, we find them generally so far formed, as to be easily discerned through the gum. The fore-teeth are to be observed at first, not on the edge of the gum, but on the fore part, making risings there which appear whiter than the other parts, and it may be observed, that the gums are broader than usual.

At this period the incisions must be made pretty deep, till the Tooth be felt with the instrument, otherwise little effect will be produced by the operation : and this is the general rule, with respect to the depth of the incision in all cases.

When the grinders shoot into the gum, they flatten the edge of the gum, and make it broad. These Teeth are more easily hit by the instrument than the fore-teeth.

The operation should not be done with a fine pointed instrument, such as a common lancet, because most probably the point will be broken off against the Tooth, which will make the instrument unfit for going on further, if more incisions are required.

A common lancet, with its point rounded is a very good instrument ; but an instrument something like a fleam, would be the most convenient shape.

There is no need of any great delicacy in the operation, the gums being very insensible parts ; and to cut through the whole gum down to the Teeth with certainty, when they are pretty deep, requires some force.

The gums will bleed a little, which may be of service in taking off the inflammation. I never saw a case, where the bleeding either proved inconvenient or dangerous. If it ever should be troublesome, I think there could be no great difficulty in stopping it. In general no application is necessary : the gums soon unite at the most distant part from the Tooth, if it lies deep ; and if it be more superficial, the thin gum soon shrinks back over the Tooth, leaving it bare, and decays.

Thus cutting the dentes sapientiæ is often attended with an inconvenience, which does not attend the others; and this happens only I believe, when they come very late, viz. when the jaws have left off growing. This is the want of room in the jaws for these late Teeth; a circumstance which produces an addition to the other inconveniences arising from dentition. When it takes place in the upper jaw, the Tooth is often obliged to grow backwards; and in such a position it sometimes presses on the interior edge of the coronoide process, in shutting the mouth, and gives great pain.

When it takes place in the lower jaw, some part of the Tooth continues to be hid under that process, and covered by the soft parts which are always liable to be squeezed between that Tooth and corresponding Tooth in the upper jaw. To open very freely is absolutely necessary in these cases; but even that is often not sufficient. Nothing but drawing the Tooth or Teeth will remove the evil in many cases.

C A S E S.

It would be endless to give histories of cases, exemplifying each symptom of dentition. I shall only relate a few which are singular; and which being extraordinary, will the better enforce the propriety in all cases of the cure I have recommended.

Case 1. A young child was attacked with contractions of the *musculi flexores* of the fingers, and

also of the toes. These contractions were so considerable as to keep her fingers and thumb constantly clinched, and so irregularly, that they appeared distorted. All the common antispasmodic medicines were given and continued for several months, but without success.

I scarified the gums down to the Teeth, and in less than half an hour all the contractions had ceased.

This, however, only gave relief for a time. The gums healed; the Teeth continued to grow and filled up the new space acquired by the scarifications; and the same symptoms appeared a second time.

The former operation was immediately performed and with the same success.

Case 2. A boy about two years of age, was taken with a pain and difficulty in making water; and voided matter from the *urethra*. I suspected that by some means or other this child might possibly be affected by the venereal poison; and the suspicion naturally fell on the nurse.

These complaints sometimes abated, and would go off altogether; and then return again. It was observed at last, that they returned only upon his cutting a new Tooth: this happened so often regularly and so constantly, that there was no doubt but it was owing to that cause.

Case 3. A lady about the age of five or six and twenty years, was attacked with a violent pain in the upper jaw; which at last extended through the whole side of the face, similar to that of a violent tooth-ach from a cold, and was attended with consequent fever.

It was treated at first as a cold; but from its continuance, was afterwards supposed to be nervous.

The case was represented to me from the country; and I gave the best directions that I could on a representation of the symptoms.

He came to London some months after, still labouring under the same complaint. Upon examining the mouth, I observed one of the *dens sapientiae* ready to come through. I lanced the gums and the disorder gave way immediately.

A lady about the same age was likewise attacked with a violent pain in the left side of her face, it was regularly periodical; coming on at six o'clock in the evening. She took the Peruvian bark, which had no effect. She took antimonials, and Dover's powder, which also were equally ineffectual. But one of the points of the *dens sapientiae* of the upper jaw, of the same side appearing, shewed the cause, and indicated the remedy.—The gums were lanced, and the pain ceased.

S H E D D I N G T E E T H.

This generally begins about the seventh year, and beyond a possibility of doubt, for the most part, a more useful adult set, tho' not in all instances, so beautiful as the preceding, but which is owing oftener to neglect than nature, who at this period should be narrowly attended and assisted in her endeavours, by cultivating regularity, and removing not only the obstructing Teeth, but (as noticed under the head of supernumerary Teeth) should be formed during this yielding period to alter any unfortunate or unsightly form they shall assume.

How censurable then are those parents, guardians, or persons intrusted with the care of youth, to suffer this interesting period, (a period never to be regained) to escape unheeded; too often, I am sorry to observe, is this done to save the annual pittance of two or three dollars; an expence, which when compared with the advantages to be derived is so inconsiderable, as by a thinking mind not to be considered in competition therewith.—However, was a just attention paid to this interesting time, I scruple not to affirm, that there would not be drawn *ten* for every *thousand* now extracted. Nor am I singular in so thinking, never having met either a practitioner or a treatise, written by one that did not confirm the same.

About this period you will frequently, in consequence of the milk-teeth and the others new formed, coming in contact find a considerable

quantity of matter either concealed in the sinus or constantly discharging itself around the Teeth : this should be encouraged to depart as speedily as possible, as its injurious acrid qualities greatly tend to annoy the new formed Teeth. An antiseptic lotion is very good at such a juncture. I have seen one or two instances where this matter made its way externally, and left a scar for life : at all times it tends to scrofula, but which if it takes little root may be eradicated by balsamic applications followed with astringents.

I observed that the pain designated by the name of inflammatory, is peculiar to children, my immediate attendance on seminaries where so many were necessarily together, has permitted me to observe its progress, and given a large field for contemplation thereon. I notice it commences its attack by a gnawing sensation at the root or roots of the Tooth complained of, and bone of the jaw; frequently bringing on fever, which continuing for two or more days, causes inflammation, this when arrived at its height, creates a prevalent matter, which now changes the sensation before felt, for that of one throbbing : this matter, if not released by lancing, generally makes its way between the gum and Tooth, when ease ensues, and the patient remains so, until a return takes place, which being frequently the case, it would be most correct to say extraction is the best remedy without noticing the alleviations generally used, which is regular warmth from a bladder three parts filled with warm milk and water, applied to the parts as hot as bearable, flannels, lancing, &c. I know some object to extracting while inflamma-

tion is at its height, but as that is seldom on both sides, and an expert practitioner draws on either, the objection I think scarce worth contention, beside children's Teeth are for the most part drawn perpendicularly.

ON THE USE OF COLD WATER.

The use of the cold bath to strengthen, brace and render firm the human frame, is a thing so well established, that to seek for any proof is only loss of time; no person then will feel surprised when I assert its beneficial qualities equally act upon the Teeth, those who use their brush regularly, each morning after rising, need entertain little apprehension of decay, or if any should take place, they may rely this will much retard its progress.

CLIMATE—ITS EFFECT ON THE TEETH.

Climate, I am confident, has considerable action on the Teeth; for it is a fact, that those who live at the northward, have them less decayed than those who reside at the southward, or in warmer climates. This by many is attributed to other causes, viz. the variety of hot liquids, in the use of which, people so situated generally indulge, as tea, coffee, &c. to which they add animal food, the latter I think ideal, unless when suffered to remain within the hollows or interstices until it becomes putrid: and we find that people who reside in cities and large towns, where the air is more confined, and much resembles that of warm climates, suffer a decay of their Teeth at an earlier period than those who live in the country and breathe a purer air.

ARTIFICIAL TEETH.

These to have in perfection is business for a Dentist, but as many have succeeded in the attempt of making them, I know no objection to others giving it a trial; the best way to which is, impressing of wax, so as to form and fit the vacated space. At first this will carry an awkward appearance, but by repeated pairings become more shapeable and resembling the thing wanted, and may serve as a model, for yourself to fashion one more substantial, to send to an operator or to wear temporary. The loss of Teeth is not only a deformity to view, but detrimental to speech; and tho' many to avoid the imputation of vanity decline the use of artificial ones, I am persuaded it can only be adduced to not reflecting on their utility. Without insisting upon that happy expression of countenance which at all times renders us acceptable to our own species, and which is much promoted by the use of artificial Teeth. They by pressure keep those on each side from approximating, as they also prevent that with which they come in contact, from leaving its place, which from want of an opponent it often does. Real Teeth placed on pivots or springs excel any other, but the most natural substitute, and which keeps its colour, is the sea-horses Tooth, best and most innocently secured by silk twist, sea-weed or white thread waxed. Many use gold-wire, as I do likewise, but seldom, unless particularly requested. Whole sets require springs of a peculiar form, although I once saw a complete and entire set adhere solely by suction.

*To those worthy Gentlemen, ill-naturedly
nomenclated Quack-Doctors, Tooth-
drawing Barbers, Nostrum Mongers,
and Itinerant Mountebanks.*

I HAD just finished this Treatise when I received an application to attend a lady whose upper jaw had been considerably injured by one of the greatest empirics of whom your fraternity can boast, and was thus reminded of a *duty* which has only lost its weight, I should presume, by the hackneyed manner in which it has hitherto been performed. Many, no doubt, are the pages my predecessors have lengthened out hereby, and conspicuous are the pages where an adage* would apply; but waving that or any other illiberal observation, without even premising to a generous public, that what said to you are hints to them, or vulgarly abusing merits and ingenuity, to which I am infinitely a debtor; suffer me in the language of obligation to state the kindnesses received and acknowledge with gratitude incumbent, the information your dexterity, and skill has enabled me to acquire. Various and intelligent has been the practice you have afforded, and *ad infinitum* I hope will be your labours to benefit society in general. The vile inuendoes, that you break Teeth,

* Two of a Trade cannot agree.

fracture the parts, cause exfoliations, dangerous hæmorrhages, deep seated abcesses, or now and then a locked jaw, as instanced by Doctor Skinner, of New-York, in his treatise, page 19. I trust and believe an enlightened community will pay no attention thereto; but will permit you long to reign the unmolested practisers of mischief through your lives, giving to regular professors that knowledge so necessary to be obtained, and which denied by you can proceed from chance alone. In short, to real professors of the art, you are of the same utility dead subjects are to the anatomist, and mistaken is he who sees you in any other light. Malice and envy in vain shall shoot their shafts, while œconomy shall find the *charges* are so moderate.

May you prosper in your undertakings, and may you never want a patient, until, by some unlucky well-meant, though misconceived jerk, twist, or otherwise injudicious accident, you proclaim your operations not performed *secundum artem*.

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OF THE AUTHOR'S
DENTIFRICE;

ANTI-SCEPTIC LOTION, TOOTH-SOAP, and
OPIATE.

Early after becoming a practitioner was I emulous of offering to the public, *Dentifrices* of a superior quality to those so much and so *injuriously* in use, and for this have I passed much time in investigating preparations sold with promises to that effect. I flatter myself I have been successful in discovering their evil tendency, and combining others on which I hope I may stake that reputation I trust, it is allowed, I have honorably attained—They are four; a soap composition, which I believe stands unrivalled; a powder, innocent, and where properly applied, effectual in all its requisites; a lotion capable of answering every purpose for which it is recommended; and an opiate, which wherever I have prescribed it has given general satisfaction.

These may hereafter be had, as may this treatise also, at the following places: Doctor Betton, 129, Mulberry-street, Philadelphia; Mr. George Maris, 134, Market-street, Baltimore; Mr. John Ott, George-Town, Maryland, and of the Author, in Charleston,

ERRATA.

Page 15 Line 28, *for salarmoniac, bole armoni-*
ac read.

Salammoniac—Bole armenic.

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| 17 | 14 | <i>for enameled read enamelled.</i> |
| 18 | 7 | <i>for faliver read saliva.</i> |
| 19 | 9 | <i>for porus read porous.</i> |
| 23 | 8 | <i>for gum-boils read gum-biles.</i> |
| | 23 | <i>for where boils read where biles.</i> |
| 28 | 15 | <i>for made re-adhere read made</i>
<i>to re-adhere.</i> |
| | 23 | <i>for ether read æther.</i> |
| 33 | 6 | <i>for faliver read saliva.</i> |
| 38 | 5 | <i>for steptics read styptics.</i> |
| | 28 | <i>for readhered read re-adhcred.</i> |







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